

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruckl (US 5,386,097) in view of Beyer et al (US 2003/0197909) or Klein (DE 39 23 829).

Ruckl shows the structure claimed including a laser radiation (4) for printing on a cylinder workpiece (8), a disc (27) which is provided in a region of interaction between the radiation and the workpiece, an interchangeable C-shaped ring formed by segments of the elements (21, 28, 29) with two ends of the ring that follow the circumference of the workpiece wherein at one end, the disc is provided and another end with an extraction means (37). But, Ruckl does not show the hood with a vacuum extraction channel.

Beyer shows a hood which covers over an interaction between the radiation and the workpiece wherein a vacuum extraction channel is provided for vacuuming or extracting the interior air of the hood, and Klein also shows that it is known to provide a hood that cover the interaction between the radiation and the workpiece with a vacuum extraction channel to provide the vacuuming of the hood interior therein.

In view of Beyer or Klein, it would have been obvious to one of ordinary skill in the art to adapt Ruckl with the vacuum extraction channel that is provided with a hood in place of the disc that would also substantially cover a distance between the two circumferential ends of the C-shaped ring along with the extraction means to allow further extraction of debris resulting from the radiation interaction.

3. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruckl in view of Beyer or Klein as applied to claims 1, 2 and 25 above, and further in view of Urlichs (US 2003/0071423).

Ruckl in view of Beyer or Klein shows the structure claimed except for the C-shaped cover ring provided with means for reducing its free inside diameter.

Urlichs shows that it is known in the art to provide a workpiece holding member with a lamella seal to seals off the holding member by reducing its diameter with respect to the workpiece member.

In view of Urlichs, it would have been obvious to one of ordinary skill in the art to adapt Ruckl, as modified by Beyer or Klein, with the C-shaped ring with the means such as the lamellar seal to seals off the radiation interaction and allow the debris from the radiation interaction would more effectively vacuumed or extracted to the vacuum extraction source.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ruckl in view of Beyer or Klein as applied to claims 1, 2 and 25 above, and further in view of Rinaldi (US 5,126,523).

Ruckl in view of Beyer or Klein shows the structure claimed except for the C-shaped cover ring with that is subdivided into at least two ring segments.

Rinaldi shows that it is known in the art to provide a C-shape cover ring with at least two segments that are pivotally held each other.

In view of Rinaldi, it would have been obvious to one of ordinary skill in the art to adapt Ruckl, as modified by Beyer or Klein, with the C-shaped ring with at least two segments to conveniently allow the workpiece to be held by the C-shaped ring segments which allows more flexibility to conform to the workpiece peripheral surface.

***Allowable Subject Matter***

5. Claims 8, 10, 13-19 and 24 are allowed
6. Claims 9, 11, 12 and 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

***Response to Arguments***

7. Applicant's arguments filed 8/27/10 have been fully considered but they are not persuasive.

The applicant argues that if both the lower bow 28 and the upper bow 29 are considered the C-shaped ring, both the disc and extraction means are in the middle of the ring. It is noted that the lower bow and upper bow takes a form of C-shaped ring wherein the end of the lower bow 28 near the suction duck (37) would constitute one end whereas the end of upper bow (29) near the disc (27) would constitute another end. The term C-shaped is broad to encompass the arrangement of the bows 28 and 29 as a

C-shaped ring wherein one end from lower bow (28) located at the extraction means would meet the recited one end whereas the one end of the upper bow near the disc would meet the other end. It is also noted that as the applicant also discloses multiple segments (13a, 13b and 13c) that forms a C-shaped ring, and since it can also be said that both the extraction means and the hood are located at one end of the C-shaped ring (13a), or that the both the extraction means and the hood are in the middle of the C-shaped ring composed of 13c and 13a.

The applicant also argues that the suction duck 37 of Ruckl would not function as an extraction means. This argument is not deemed persuasive since as the suction duck 37 of Ruckl creates a negative pressure in a gap (39) between the arms (34) and the workpiece (8) as illustrated in Figure 10, it creates a vacuuming effect as that of the vacuum extraction means.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANG Y. PAIK whose telephone number is (571) 272-4783. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SANG Y PAIK/

Primary Examiner, Art Unit 3742